

# ABUG



ACORN & BBC  
microcomputers  
USER GROUP  
Sheffield

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LINE DRAWING AND TEXT PLOTTED BY PENMAN

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Diary

|               |                            |                                         |
|---------------|----------------------------|-----------------------------------------|
| February 6th  | (The Hornblower)           | Social                                  |
| February 20th | (ITEC)                     | Visit to ITEC                           |
| March 6th     | (The Hornblower)           | Social                                  |
| March 20th    | (venue to be arranged)     | Talk and Demonstration<br>by ATPL       |
| April 3rd     | (The Hornblower)           | Social                                  |
| April 17th    | (venue to be arranged)     | Talk and Demonstration<br>by Steve Gold |
| May 1st       | (The Hornblower)           | Social                                  |
| May 15th      | The Annual General Meeting |                                         |

Sincere apologies for the mix of dates given in the diary of last month's newsletter. Sorry to those who thought that it was some sort of cryptic puzzle, but if anyone could decipher which calendar was being applied, the editors would be grateful for some enlightenment. We again remind members that accurate details of meetings are usually displayed at Datron's microcomputer shop on West Street.

The meeting room at the Park Baths is temporarily unavailable due to urgent repair works. Alternative arrangements will be made as necessary and details published as soon as possible. The club meeting on the 20th February will be a visit to ITEC and details will be available at the next social meeting.

Steve Gold, author of several articles published in Acorn User, was due to speak tonight, but unfortunately has had to postpone his visit to the club until April. However we have a robot plotter on loan from Penman Products, for evaluation, and it will be on demonstration tonight and possibly at the next social meeting. Also included in this month's newsletter is an early appraisal. If any members are interested in buying one of these plotters please contact John Bramwell for details, and quote ABUG when ordering. Sorry there is no discount, but it may help with any future loans of equipment for club demonstrations.

The latest of the live 'micro magazine' programmes was shown on BBC2, Friday 11th January. This monthly series seems to be maintaining a good standard, and although all the presenters may not be to everyone's liking, the informal presentation and the range of topics covered make the shows well worth watching. The next edition is due on Friday 8th February at 6.00 p.m., and a recording is usually broadcast the following day.

Finally, the meeting room at The Hornblower seems to suit most people and so we shall be continuing with this venue. However, will younger members please note that they are not allowed to stay in any of the public bar areas, and anyone under 18 must not buy or consume any alcoholic drinks.



Soldisk expert

Members may have noticed that in recent Solidisk Advertisements a list of 'expert helpers' is available.

Our local contact is-

Steven Wright  
123 Aughton Road  
Swallownest  
Tel. Sheffield 876037

We have not contacted him ourselves, but we understand that he is quite helpful.

Penman Robot Plotter

Last June we wrote to Penman Products (then called Chessel Electronics) requesting a visit by them, or the loan of a plotter for demonstration. The plotter has been slightly featured on several television programmes, and is now getting more publicity in the computer press. Finally, it has arrived and the immediate impression is that it has been well worth the waiting.

The plotter is well packaged and presented. The package includes the plotter, RS423 cable, power transformer and cable, plastic plotting surface (platen), pens, paper, utility disc and manual. The manual and instructions are very clear, and it is fairly easy to set up the plotter.

The Penman is quite different in design from flat-bed plotters, and consists of a roving robot attached to a base unit by a flexible ribbon cable. The three drawing pens sit in wells in the body of the robot, and are brought into contact with the paper under software control. The amazing feature of the plotter is that it performs quite accurately, whilst using what seem to be such crude principles. The positioning of the robot is performed with the use of two driven wheels (plus a trailer wheel), and optical sensors. Two of the optical sensors are used to detect the paper edges, and the plotter then gives itself an accurate 'home' reference position. The plotting speed is quoted at 50mm. per second, which is quite in keeping with flat-bed plotters. Early mistakes showed that the paper needs to be well secured to the plotting area, and care needs to be taken in positioning the base unit to ensure that the ribbon cable is completely free of obstructions during plotting.

The maximum size of paper quoted in the manual is A3 (420mm. x 297mm.). There is a requirement that the plotter always remains on the actual drawing sheet, to prevent the wheels from being disturbed by the paper edges. This means that the 'safe' plotting area quoted in the manual is 278mm. x 155mm., which is quite a reduction. However, it may be possible to use oversize paper and then trim to required size after plotting. The plotting area size is then only limited by the length of the ribbon cable. Thus it may be possible to produce plots of varying proportions, while not being able to exploit the maximum travel along each axis in a single plot. The manual states that the base unit can be moved during a pause in plotting, so extending the size of plot possible. There is obviously a lot of scope for experimentation.

The plotter has firmware programmes that control its movements via a very user-friendly language. The commands available allow direct or user-programmed control of movement via absolute, relative or polar co-ordinates. Pen colour selection and 'pen up/down' are the other fundamental commands. Also included are other utility routines: arc/circles, home, initialise, text. The text command itself has parameters which considerably extend its use. The height of text can be varied between 1mm. and 127mm., and the small lettering is readable! A choice of four options is available for the orientation of text which, together with the eighteen variations of slant angle, make the text feature quite impressive. Within the firmware there is a routine that allows the robot to keep a record of its twists and turns, and it automatically unwinds itself

as necessary. Even this feature is available to user control, and can be switched off. It is such an essential routine that I cannot imagine anyone dispensing with it.

The software package included begins to illustrate the flexibility and versatility of the unit. Apart from the programs which allow direct or programmed control of the plotter, the utility pack includes software exploiting three other uses of the device. Firstly, a use in keeping with its plotting abilities, is a program linking it to the Acornsoft LOGO language, but you need to have the ROM version fitted.

The plotter robot can be used as a 'mouse' and indeed, it is in this mode that menu selection is made in the welcome program provided. This potential considerably extends its usefulness in CAD work. The remaining skill of the unit makes use of its optical sensors, as a rudimentary digitiser. It is possible to obtain a very basic (low definition: 15mm. x 15mm. blocks) screen interpretation of a high contrast picture, and while this may not be very impressive as a screen display, it well illustrates what could be interesting diverse uses (bar code reader, etc ?).

The early conclusion is that this looks to be an excellent buy for hobbyists and schools, where the wide range of applications can be explored. For business/professional use, the size of plot will be the deciding factor. Certainly, within the limitations stated in the manual, the accuracy of plot would seem to be acceptable for most purposes. For the price (up to the end of January 1984, £274.75 inc. plotter, cable, utility software, delivery, and VAT) it seems very good value compared to its competitors.

#### The Art of Microcomputer Graphics for the BBC Micro/Electron by J. McGregor and A.Watt

Comparisons of home microcomputers always remark on the superb colour graphics facilities of the 'Beeb', but often comment that the machine is overpriced. This may be if playing games is your prime concern. Jim and Alan's book goes some way to getting a better return for the outlay of the serious user. The book contains 430 pages divided into ten chapters and 5 appendices. It covers much of the information which has already appeared in print, but covers new areas of graphics. The emphasis is on the artistic capability of the machine and over thirty colour plates provide adequate demonstration of this.

The text is easy to read and the mathematics kept to a minimum. The clarity and legibility of the numerous programs is excellent. The text discusses 2 and 3 dimension operations, symmetry, tessellations, fractals and builds up to a crescendo with a large program which removes hidden surfaces and brings a reality to computer graphics.

The usefulness of the book will be decided by what you expect to find in a book. The authors cover most, if not all, the basics but have often included the "it is left to the author to show ....." approach. In a rush to meet the Christmas market, many mistakes have been overlooked, pages are in the wrong order and the binding of my book split when it was first opened.

The goods are of quality but the packaging is not. Since text only covers two-thirds of every page, perhaps, at a time when sales of imperfect goods abound, two-thirds of the cost might have been a better price.

D.J.Dyson

#### Future Newsletters

With such an extensive range of peripheral equipment coming onto the market, the question of compatibility will inevitably arise. This will obviously include the competition for the Beeb's sockets as well as software compatibility and so, if anyone has an interest and/or experience in interfacing problems, please let us know.